

WHAT IS CLAIMED IS:

1. A method of generating a user non-volatile memory interface megafunction for a programmable logic device having a user accessible non-volatile memory ("UNVM"), the programmable logic device including a raw UNVM interface for passing signals to and from the user accessible non-volatile memory, the method comprising:
 - selecting an interface protocol;
 - specifying one or more parameter values for the selected interface protocol;
 - generating a user non-volatile memory interface megafunction using the selected interface protocol and the specified one or more parameter values
 - wherein the generated user non-volatile memory interface passes signals to and from the raw UNVM interface.
2. The method of claim 1 wherein the interface protocol is selected from a group comprising one or more of the following: None, Parallel interface, SPI interface, I²C interface, 3-wire interface and 3-wire compatible interface.
3. The method of claim 1 wherein the one or more parameter values include one or more of the following: memory type, memory configuration, mode, page size, and/or device address.
4. The method of claim 3 wherein the memory type is selected from one or more of the following: 2 Kbits or 4 Kbits.

5. The method of claim 3 wherein the memory configuration is selected from one or more of the following: 1 Kbits: 64x16, 1 Kbits: 128x8, 2 Kbits: 128x16, 2 Kbits: 256x8 or 4 Kbits: 256x16.

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6. The method of claim 3 wherein the mode is selected from at least the following: read only or read/write.

10 7. The method of claim 3 wherein the page size is selected from at least the following: 8 bytes, 16 bytes, or 32 bytes.

8. The method of claim 1 wherein the device
15 address is a binary number value.

9. The method of claim 8 wherein the binary number value is of the form 1010xxx.

20 10. The method of claim 1 further comprising compiling an electronic design including instructions specifying the user non-volatile memory interface megafunction to produce instructions for producing an integrated circuit having the user non-volatile memory
25 interface megafunction incorporated therein.

11. The method of claim 1 wherein the one or more parameters are specified on a graphical user interface.

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12. The megafunction of claim 1 further includes a raw UNVM interface that passes signals between the user accessible non-volatile memory and other portion of the programmable logic device.

13. The method of claim 12 wherein the
generated non-volatile memory interface provides a means
of communicating the user selected interface protocol with
5 the raw UNVM interface.

14. A programmable logic device comprising the
user non-volatile memory interface megafunction of claim
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15. The programmable logic device of claim 14
further including a raw UNVM interface for communicating
between a non-volatile user memory and the PLD.

16. The PLD of claim 15 wherein the interface
megafunction provides a means of communicating the user
selected interface protocol with the raw UNVM interface.
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17. A computer program product comprising a
20 computer readable medium on which is stored program
instructions for a method of generating a user non-
volatile memory interface megafunction for a programmable
logic device having a user accessible non-volatile memory
("UNVM"), the programmable logic device including a raw
25 UNVM interface, the method comprising:

selecting an interface protocol;
specifying one or more parameter values for
the selected interface protocol;
generating a user non-volatile memory
30 interface megafunction using the selected
interface protocol and the specified one or more
parameter values. interface.

18. A method of providing compilable variations of a user non-volatile memory interface for electronic designs, the user non-volatile memory interface requiring specific settings before it can be compiled to unambiguous circuit blocks forming parts of electronic designs, the method comprising:

receiving a set of option settings containing user-selected settings for a user non-volatile memory interface, the set of option settings being selected from a plurality of sets of option settings wherein each set of option setting corresponds to one of a plurality of interface protocols;

generating a compilable variation file specifying the received set of option settings; and using the compilable variation file to generate unambiguous circuit blocks of an electronic device

wherein the electronic device includes a user accessible non-volatile memory and a raw UNVM interface for passing signals to and from the user accessible non-volatile memory and wherein the user non-volatile memory interface passes signals to and from the raw UNVM interface.